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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,869	10/20/2000	William T. McHugh	08935-218001 / M-4926	6097

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225 FRANKLIN ST  
BOSTON, MA 02110

EXAMINER
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MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/692,869

Applicant(s)  
McHugh et al.

Examiner  
Angela J. Martin

Art Unit  
1745



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 8, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-44 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10-14, 16, 17, and 19-44 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 15, and 18 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### **DETAILED ACTION**

This Office Action is responsive to the Amendment filed on April 8, 2003. The Applicant has amended claims 1, 9, 18, and 21 and canceled claim 6; Applicant has added new claims 27-44. Although the Applicant has overcome the previous rejections, Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made final.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 7, 10-14, 16, 17, 19, 20, 26-29, 31-35, 37-42, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Payne et al., U.S. Pat. No. 6,423,438 B1.

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Rejection of claims 1-5, 7, 10-13, 27-29, 31-35, 37-42, and 44 drawn to a battery; claims 14, 16, 17, 19, 20, 26 drawn to a method of making a metal-air battery.

Payne et al., teach a battery comprising a can having a rectangular cross section (col. 4, lines 7-9), the can having an open and closed end, a cathode, an anode, a separator between the electrodes (col. 2, lines 1-6), and a seal assembly attached to open end of can, wherein the seal assembly comprises a seal and a current collector attached to the seal (Fig. 8e; col. 5, lines 64-67). It also teaches the can comprises an air access opening (col. 1, lines 28-32); cathode comprises manganese oxide (col. 4, lines 11-19), wherein the cathode has a rectangular cross section (col. 4, lines 7-9); anode comprises zinc (col. 4, line 43); battery is a metal-air battery (col. 1, lines 66-67). In addition, it teaches a barrier layer, polytetrafluoroethylene, between the cathode and can (col. 4, lines 26-28), wherein the cathode and can define an air plenum inbetween (col. 2, lines 7-8). Additionally, it teaches a method of making a metal-air battery by placing a cathode tube in a can of rectangular cross section and an air access opening, placing anode in the can, and sealing a portion of the can over the seal assembly (col. 6, lines 1-10); placing a barrier layer between the cathode and the can (col. 4, lines 11-25); placing a separator between the cathode and anode (col. 2, lines 1-6); and connecting the cathode to the can with a tab (col. 4, lines 26-35), wherein sealing comprises crimping the can over the seal assembly (col. 1, lines 46-54). It also teaches a battery comprising a can having a polygonal cross section, which includes a rectangle, and a square, as described above; and it teaches the can has a square cross section (a rectangle with all four sides equal) (col. 4, lines 7-9).

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Thus, the claims are anticipated.

***Claim Rejections - 35 USC § 103***

3. Claims 21-25, 30, 36, and 43 rejected under 35 U.S.C. 103(a) as being unpatentable over Payne et al., U.S. Pat. No. 6,423,438 B1, in view of Ward et al., U.S. Pat. No. 6,197,445 B1.

Rejection of claims 21-25, 30, 36, and 43 drawn to a battery.

Payne et al., teach a battery as described above.

Payne et al., do not teach a battery comprising a can having a triangular cross section.

Ward et al., teach a metal-air cell, wherein the cell may be rectangular, or any polygonal cross-section (triangular) (col. 7, lines 28-35).

Thus, it would have been obvious at the time the invention was made to insert the teachings of Ward et al., into the teachings of Payne et al., because Ward et al., teach that metal-air cells “can have a variety of cross-sectional shapes, including any closed-perimeter cross-section.” (col. 7, lines 28-35). This variety of cross-sections provides more flexibility in the application of the metal-air battery.

***Allowable Subject Matter***

4. Claims 8, 9, 15, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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5. The following is a statement of reasons for the indication of allowable subject matter:

The Applicant claims a metal-air battery comprising a conductive or a non-conductive melt between the cathode and the seal assembly.

The prior art of record does not suggest a conductive or a non-conductive melt between the cathode and the seal assembly.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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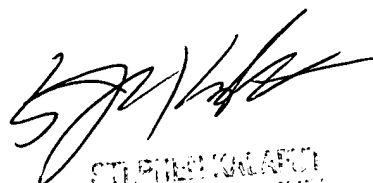
*Examiner Correspondence*

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Angela J. Martin whose telephone number is (703) 305-0586. The Examiner can normally be reached on Monday - Friday from 8:00am to 4:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Patrick Ryan, can be reached at (703) 308-2383.

In order to transmit an official fax/non-final, the number is (703) 872-9310. In order to transmit an official fax/after final, the number is (703) 872-9311.

AJM

  
STEPHEN K. MARTIN  
PATENT EXAMINER  
GROUP 1700